

# Afrotropical records of the orthoclad genus *Mesosmittia* Brundin

(Insecta, Diptera, Chironomidae)

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The male imago of *Mesosmittia cristaga*, spec. nov. is described from near the river Lushota in the West Usumbara Mts. in Tanzania. *Mesosmittia patrihortae* Sæther is reported from the Natal province of south Africa. One new combination, *Mesosmittia nigerrima* (Kieffer, 1918) is given. These are the first confirmed Afrotropical records of the genus.

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## Introduction

The genus *Mesosmittia* Brundin containing seven Nearctic and one Palaearctic species recently was revised (Sæther 1985). The paper by Lehmann (1979) redescribing *Smittia nigra* Freeman, 1953 (= *Smittia subnigra* Freeman, 1956) as a *Mesosmittia*, however, was overlooked since Freeman & Cranston (1980) placed this species in *Pseudosmittia* Goetghebuer. *Camptocladius nigerrimus* Kieffer, 1918, placed by Freeman & Cranston (1980) in *Pseudoorthocladus*, clearly is a *Mesosmittia*. Two additional species are mentioned in Cranston et al. (1989) as described from China by Wang & Zheng. However, the latter paper was never published as both species turned out to be synonyms of *Mesosmittia patrihortae* Sæther. Almost nothing is known of the ecology of the genus. Although *M. flexuella* was stated to be terrestrial by Strenzke (1950), adults have been caught in emergence traps submerged in fast flowing streams (Cranston et al. 1989). The records in Sæther (1985) also indicates the genus as at least semiaquatic. The pupa of *Mesosmittia* is unknown, although the larva was described by Strenzke (1950).

During the expedition by the Museum of Zoology, University of Bergen, to Tanzania in 1990 several new genera and species of chironomids were collected together with a few genera new to the African continent. Among these was a new species of *Mesosmittia* Brundin. Dr. B. R. Stuckenberg, Natal Museum, South Africa, has sent me some interesting chironomids for examination. Also in this material a species of *Mesosmittia*, *M. patrihortae* was present.

## Methods and terminology

The general terminology follows Sæther (1980). The holotype of *M. cristaga* is in the Museum of Zoology, University of Bergen, Norway.

*Mesosmittia cristaga*, spec. nov.

Figs 1, 2

Types. Holotype: ♂, Tanzania: West Usumbara Mts., Kibohelo, at Lushoto River, sweep net, 25.XI.1990, ZMB expedition 1990 (ZMB Type No. 234).

Diagnostic characters. The male imago can be separated from other members of the genus by having a very strong crista dorsalis making the gonostylus widest at apical third, 6 setae on squama, inferior volsella clearly widest at bluntly pointed projection, gonocoxite without apical or preapical projection, and an AR of about 1.5.

Description

Male imago (n = 1). Total length 2.24 mm. Wing length 1.27 mm. Total length/wing length 1.77. Wing length/length of profemur 2.87. Coloration blackish-brown.

Head. AR 1.46. Ultimate flagellomere 468 µm long. Temporal setae 7, including 2 weak inner verticals, 2 outer verticals, and 3 postorbitals. Clypeus with 8 setae. Tentorium (Fig. 1) 119 µm long, 23 µm wide. Stipes 117 µm long, 37 µm wide. Cibarial pump as in Fig. 1A. Palp segments lengths (in µm): 25, 53, 71, 69, 103.

Thorax. Anteprepronotum with 3 setae. Dorsocentrals 7; acrostichals about 10; prealars 5 with 2 in anterior, 3 in posterior group. Scutellum 6 setae.

Wing. VR 1.22. C extension 11 µm long. Brachiolum with 1 seta, other veins bare. Squama with 6 setae.

Legs. Spur of front tibia 49 µm long, spurs of middle tibia 23 µm and 18 µm long, of hind tibia 48 µm and 18 µm long. Width at apex of front tibia 31 µm, of middle tibia 27 µm, of hind tibia 42 µm. Comb with 10 setae, 22-39 µm long. Lengths (in µm) and proportions of legs:

	fe	ti	ta <sub>1</sub>	ta <sub>2</sub>	ta <sub>3</sub>	ta <sub>4</sub>	ta <sub>5</sub>	LR	BV	SV	BR
p <sub>1</sub>	441	608	270	144	99	72	63	0.44	3.49	3.88	2.8
p <sub>2</sub>	504	531	203	117	90	-	-	0.38	-	5.11	3.1
p <sub>3</sub>	531	617	347	171	144	81	59	0.56	3.29	3.31	7.1

Hypopygium (Fig. 2). Tergite IX with 13 setae, laterosternite with 2 setae. Phallapodeme 78 µm long, transverse sternapodeme about 82 µm long. Virga 53 µm long. Gonocoxite 146 µm long, inferior volsella well developed; distance along inner margin from apex of gonocoxite to apex of inferior volsella 41 µm; width of volsella including knob-like projection 24 µm, width without projection 15 µm. Gonostylus 85 µm long, 37 µm wide about 1/3 from apex, crista dorsalis strongly developed making gonostylus appear triangular, megaseta 5 µm long. HR 1.73, HV 2.64.

Etymology. From the Latin *crista*, crest, and the dismembered *magnus*, large, leaving *-gus* used as suffix, referring to the large crista dorsalis.

Systematic remarks. The new species will key to *M. patrihortae* in Sæther (1985) and undoubtedly is closely related to that species. It differs primarily in having a more strongly developed crista dorsalis. Other probably significant differences consist in the more numerous (6) setae on the squama, the much higher BR ratio of the hind leg (7.1 as opposed to 3.3-4.4), and the presence of only 2 setae on the laterosternite. *M. nigerrima* may be even more similar having a somewhat similar crista dorsalis which, however, makes the gonostylus wider in the middle and not in apical third. *M. nigerrima* has an AR of about 2.0 and 2-3 setae on squama.

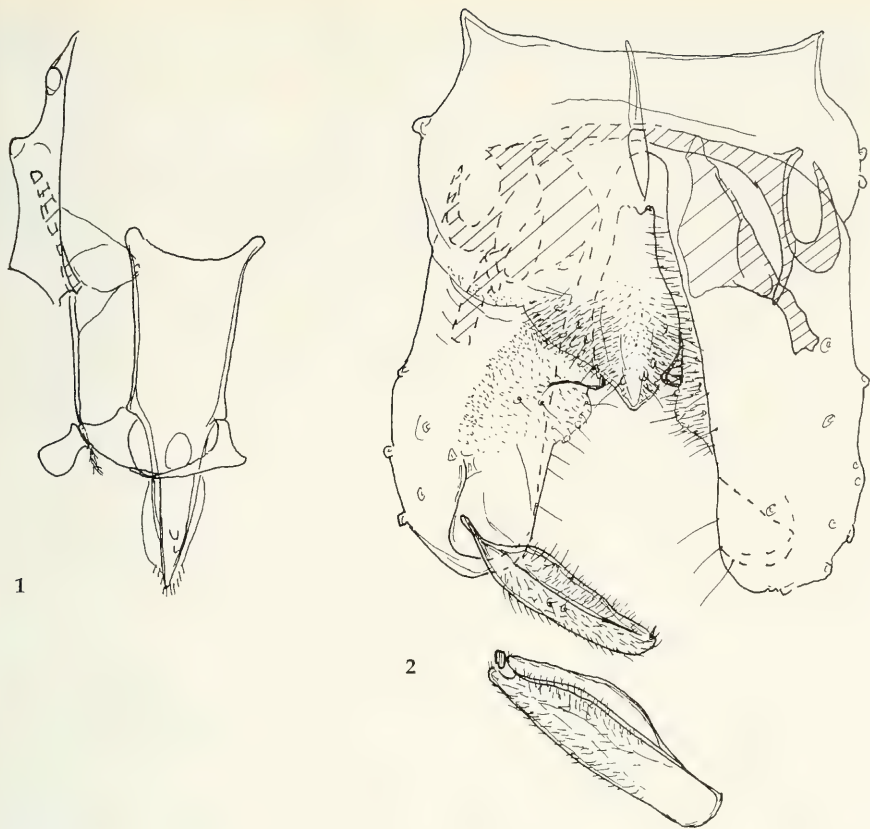
*Mesosmittia patrihortae* Sæther

*Mesosmittia patrihortae* Sæther, 1985: 47.

*Mesosmittia dolichoptera* Wang & Zheng, 1990: 486, **syn. nov.**

*Mesosmittia yunnanensis* Wang & Zheng, 1990: 488, **syn. nov.**

New material examined: South Africa: Natal, Merrivale, near Howick, 29°31'S, 30°13'E, 1 ♂ at light, 13.-31.X.1990, B. R. Stuckenberg.



Figs 1, 2. *Mesosmittia cristagata*, spec. nov., male imago. 1. Cibarial pump, tentorium and stipes. 2. Hypopygium.

The measurements of the specimen from South Africa all are within the range of those of *M. patrihortae* as described in Sæther (1985: 47) except that the costal extension is 46  $\mu\text{m}$  long with an indication of a false vein at apex of the costa extending to 126  $\mu\text{m}$ , there is a non-marginal seta at the apex of the costal extension, the ultimate flagellomere is 513  $\mu\text{m}$  long, the antennal ratio is 1.51, the HV is 2.74, and some of the leg segments are very slightly longer. If the longer costal extension hold up on a larger material the specimen may be shown to belong to a separate species or subspecies.

*M. patrihortae* is widespread in North America and I have seen several specimens from China in the collection of Xinhua Wang, Department of Biology, Nankai University, Tianjin, China, determined as *M. dolichoptera* Wang & Zheng and *M. yunnanensis* Wang & Zheng. Most likely some of the European records of *M. flexuella* (Edwards) (Ashe & Cranston 1990) concerns *M. patrihortae* and not *M. flexuella*.

***Mesosmittia nigerrima* (Kieffer), comb. nov.**

*Camptocladius nigerrimus* Kieffer, 1918: 81.

*Orthocladius nigerrimus*, Freeman 1956: 335.

*Pseudorthocladius nigerrimus*, Freeman & Cranston 1980: 185.

The description by Freeman (1956: 335, Figs 9i-j) is sufficient to place this species as member of *Mesosmittia* close to *M. acutistylus* Sæther, 1985 and *M. cristaga*, spec. nov.

## *Smittia nigra* Freeman

*Smittia nigra* Freeman, 1953: 206.

*Smittia subnigra* Freeman, 1956: 352.

*Pseudosmittia subnigra*, Freeman & Cranston 1980: 186.

? *Mesosmittia subnigra*, Lehmann 1979: 41.

not *Allocladius niger* Kieffer, 1913: 28 [= *Pseudosmittia nigra* (Kieffer)].

not *Smittia nigra* (Kieffer), Freeman 1956: 349 [= *Pseudosmittia nigra* (Kieffer) and *Pseudosmittia salti* Freeman, 1954].

The type material of *Smittia nigra* Freeman, *Pseudosmittia salti*, and *Pseudosmittia nigra* (Kieffer) at The Natural History Museum, London, and Museum National d'Histoire Naturelle, Paris, were re-examined in connection with an on-going revision of the genus *Pseudosmittia*.

The male holotype appears to be an atypical *Smittia* in lacking the characteristic long anal point, but has short acrostichals starting in front at scutum. It may conceivably represent an undescribed genus. The female paratype is a typical *Smittia*.

The specimen described by Lehmann (1979) probably is a different species belonging neither to *Smittia* nor to *Mesosmittia*, since there is just 1 median acrostichal, no setae on squama, and the gonostylus appear quite different from known species of *Mesosmittia*.

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